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EINLADUNG zum IFP-SEMINAR

Pressure effect on the superconducting and the normal state of β-Bi_2Pd

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Host: Neven Barisic

Termin: **Montag, 4. März 2019, 16:00 Uhr**

Ort: Institut für Festkörperphysik, TU Wien
Wiedner Hauptstraße 8-10, 1040 Wien
Seminarraum DB gelb 09 (gelber Bereich, 9. OG)

Abstract:

Superconductor β-Bi_2Pd is one of the candidates for realization of topological superconductivity. Recently, the compound β- Bi_2Pd has attracted interest due to controversial results about the origin of superconductivity, where there are some indications on a multigap superconductivity, topologically protected surface states, as well as a standard conventional superconductivity in this system. In this work we study pressure effect on superconducting and normal-state properties of β- Bi_2Pd by measurements of the electrical resistivity. In addition, we have performed the heat capacity measurements in the temperature range 0.7 – 300 K at ambient pressure. The recent calculations of electric density of states, electron-phonon interaction spectral function, and phonon density of states [1] are used to fit the resistivity and the heat capacity data. Enhanced value of Sommerfeld coefficient together with T2 dependence of the resistivity indicate that beside the electron-phonon coupling, also an electron-electron interaction may play a role in the superconductivity of β- Bi_2Pd [2].

[1] J. J. Zheng and E. R. Margine, Phys. Rev. B 95, 014512 (2017).

[2] G. Pristáš et al., Phys. Rev. B 97, 134505 (2018).